WHAT IS CLAIMED IS:

1. A method for generating a constant envelop combined signal, comprising:

generating a combined signal that is a combination of a plurality of input signals;

attenuating selected ones of the input signals to generate attenuated input signals; and

outputting the attenuated input signals and other non-attenuated input signals for generating the constant envelop combined signal.

2. The method of claim 1, further comprising:

generating a similarity measurement between each of the input signals and the combined signal; and

selecting ones of the input signals based on the similarity measurement.

3. The method of claim 2, generating a similarity measurement comprising:

multiplying time values of each of the input signals with corresponding time values of the combined signal to generate products; and

summing the products to form the similarity measurement.

4. The method of claim 2, the generating a similarity measurement comprising cross-correlating each of the input signals with the combined signal.

5. The method of claim 4, the cross-correlating comprising:

sweeping one of each of the input signals and the combined signal pass each other; and

generating a dot product for each sweep increment between overlapping portions of each of the input signals and the combined signal.

6. The method of claim 2, the selecting comprising:

comparing the similarity measurements with one of a predetermined selection threshold value or a parameter based on a combined signal power value to generate comparison results; and

selecting the ones of the input signals based on the comparison results.

7. The method of claim 2, the selecting comprising: comparing the similarity measurements with each other; and

selecting N number of input signals that correspond to N largest similarity measurements, where N is a positive integer.

8. The method of claim 7, further comprising determining a value for N by empirical analysis of combined signals.

9. The method of claim 1, further comprising generating attenuation values corresponding to each of the selected ones of the input signals.

10. The method of claim 9, the generating attenuation values comprising one of:

selecting one of a predetermined attenuation value or an generated attenuation value based on a number of selected ones of the input signals;

generating an attenuation value based on an amount that the combined signal exceeded one of a threshold or a combined signal power value;

generating an attenuation value for each of the selected ones of the input signals based on a magnitude of the similarity measurements; or

generating attenuation values for each of the selected ones of the input signals based on at least one of magnitudes of the similarity measurements, the combined signal power value, or the amount that the combined signal exceeded one of the threshold or the combined signal power value.

11. The method of claim 1, wherein the combined signal is generated by summing the input signals.

12. The method of claim 1, the generating a combined signal, the attenuating selected ones of the input signals, and the outputting the attenuated input signals and other non-attenuated input signals are performed using analog or digital techniques.

13. A method for generating a constant envelop combined signal, comprising:

generating a combined signal that is a combination of a plurality of input signals;

generating a similarity measurement between each of the input signals and the combined signal;

comparing the similarity measurements with one of a predetermined selection threshold value or a parameter based on a combined signal power value to generate comparison results;

selecting the ones of the input signals based on the comparison results; attenuating the selected ones of the input signals to generate attenuated input signals; and outputting the attenuated input signals and other non-attenuated input signals for generating the constant envelop combined signal.

14. An apparatus that outputs signals that combines into a constant envelop combined signal, comprising:

a controller; and

a memory coupled to the controller, the controller generating a combined signal that is a combination of a plurality of input signals, and attenuating selected ones of the input signals to generate attenuated input signals, wherein the attenuated input signals and other non-attenuated input signals may be output for combination to form the constant envelop combined signal.

15. The apparatus of claim 14, wherein the controller comprises:

a similarity measurement device; and

an attenuation value generator, the similarity measurement device generating a similarity measurement between each of the input signals and the combined signal, and the attenuation value generator selecting ones of the input signals based on the similarity measurement.

16. The apparatus of claim 15, wherein the similarity measurement device generates the similarity measurement by multiplying sample values of each of the input signals with corresponding values of the combined signal to generate products, and summing the products to form the similarity measurement.

17. The apparatus of claim 15, wherein the similarity measurement device generates the similarity measurement by cross-correlating each of the input signals with the combined signal.

18. The apparatus claim 17, wherein the cross-correlating comprises:

sweeping one of each of the input signals and the combined signal pass each other; and

generating a dot product for each sweep increment between overlapping portions of each of the input signals and the combined signal.

19. The apparatus claim 15, wherein the attenuation value generator selects the ones of the input signals by:

comparing the similarity measurements with one of a predetermined selection threshold value or a parameter based on a combined signal power value to generate comparison results; and

selecting the ones of the input signals based on the comparison results.

20. The apparatus of claim 15, wherein the attenuation value generator selects the ones of the input signals by:

comparing the similarity measurements with each other; and

selecting N number of input signals that correspond to N largest similarity measurements, where N is a positive integer.

21. The apparatus of claim 20, wherein a value for N is determined by empirical analysis of combined signals.

22. The apparatus of claim 15, wherein the attenuation value generator generates attenuation values corresponding to each of the selected ones of the input signals.

23. The apparatus of claim 15, wherein the attenuation value generator generates attenuation values by one of:

selecting one of a predetermined attenuation value or an generated attenuation value based on a number of selected ones of the input signals;

generating an attenuation value based on an amount that the combined signal exceeded one of a threshold or a combined signal power value;

generating an attenuation value for each of the selected ones of the input signals based on a magnitude of the similarity measurements; or

generating attenuation values for each of the selected ones of the input signals based on at least one of magnitudes of the similarity measurements, the combined signal power value, or the amount that the combined signal exceeded one of the threshold or the combined signal power value.

24. The apparatus of claim 14, wherein the combined signal is generated by summing the input signals.

25. The apparatus of claim 14, wherein the apparatus generates the constant envelop combined signal using analog or digital techniques.

26. An apparatus that outputs signals that combines into a constant envelop combined signal, comprising:

a controller;

a memory coupled to the controller;

a combiner that generates a combined signal that is a combination of a plurality of input signals;

a similarity measurement device that generating a similarity measurement between each of the input signals and the combined signal; and

an attenuation value generator that selects ones of the input signals based on the similarity measurement;

an attenuator that attenuates the selected ones of the input signals to generate attenuated input signals; and

an output interface that outputs the attenuated input signals and other non-attenuated input signals that may be combined to form the constant envelop combined signal.

27. A device for generating a constant envelop combined signal, comprising:

means for generating a combined signal that is a combination of a plurality of input signals;

means for generating a similarity measurement between each of the input signals and the combined signal;

means for comparing the similarity measurements with one of a predetermined selection threshold value or a parameter based on a combined signal power value to generate comparison results;

means for selecting the ones of the input signals based on the comparison results;

means for attenuating the selected ones of the input signals to generate attenuated input signals; and

means for outputting the attenuated input signals and other non-attenuated input signals for generating the constant envelop combined signal.